Sewing box from salvaged timber

Gary Ramsden takes great joy in recycling an old piece of furniture

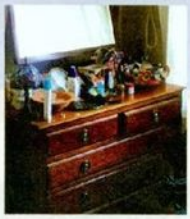
This sewing box is a lesson in how not to design furniture in the conventional way – the design dictated by the size of timber from an old chest of drawers.

Starting with a pile of salvaged timber and a quick sketch isn't the textbook approach but it is organic – and sustainable. The constraints imposed by designing for the materials to hand can lead to some interesting ideas and I find it very satisfying.

The orthodox approach would be to define your needs, sketch solutions, develop drawings and source materials. Each step in the process is inextricably linked, so it is useful to take a holistic view and you should expect to go through numerous iterations.

In this case, the internal volume was limited by the width of the deepest drawer front, so I decided to make a separate top to maximise the working depth. The board lengths were limited by the distance between the bolt holes for the original hardware, so the box had to be designed with those disparate constraints in mind.

I needed a relatively large box with a hinged top and an internal tray for the fiddly bits like needles and thimbles. The finished piece would be heavy so I also wanted a frame to raise it off the floor to aid man-handling, and to allow internal access while sitting at a sewing machine.



The timber from the sewing box came from this old chest of drawers which had reached its sell-by date

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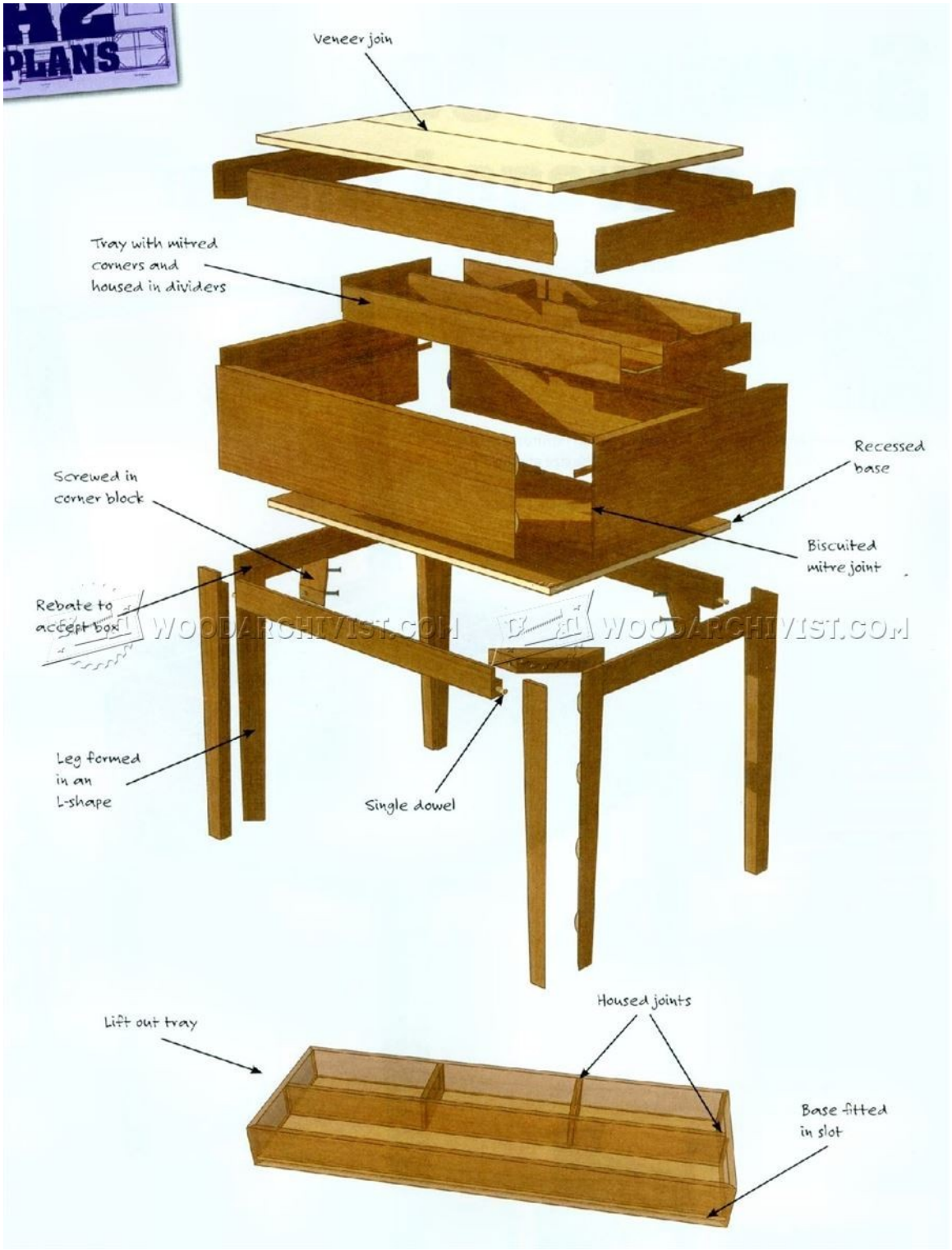
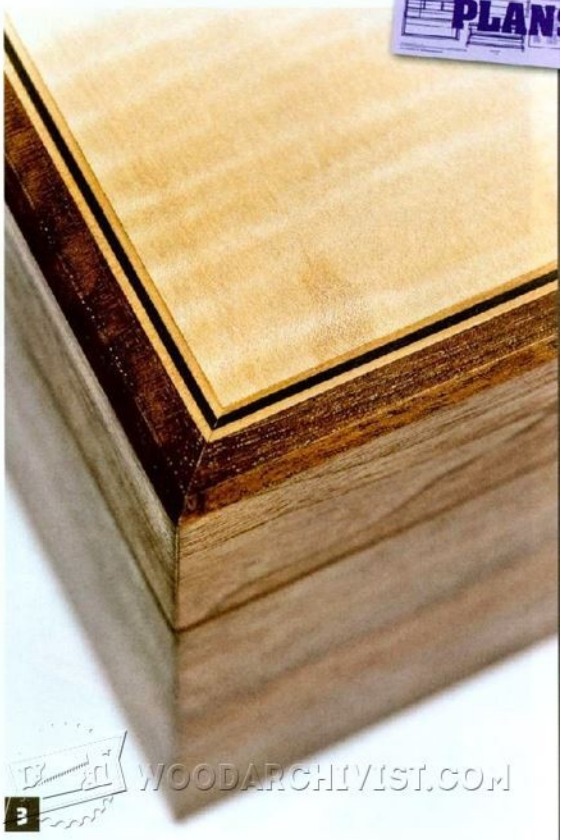
PHOTOGRAPHS BY GARY RAMSDEN


Veneer join
Tray with mitred corners and housed in dividers
Recessed base
Screwed in corner block
Biscuited mitre joint
Rebate to accept box
Leg formed in an L-shape
Single dowel
Housed joints
Lift out tray
Base fitted in slot

The stock material taken from the old chest of drawers

The veneers used in this build – in the foreground sycamore, and behind walnut



The stringing shown between the walnut sides and sycamore veneered top

"The unfinished interior of the carcass revealed strong tones in nut brown, red and purple, with a little sapwood and strong black figure"

Materials

1 The stock came from a chest of drawers which was finished in an insipid varnish. The unfinished interior of the carcass revealed strong tones in nut brown, red and purple, with a little sapwood and strong black figure, which I speculated to be a species of walnut. My suspicion strengthened as I worked the timber, which released a distinctive mouth-watering caramel scent.

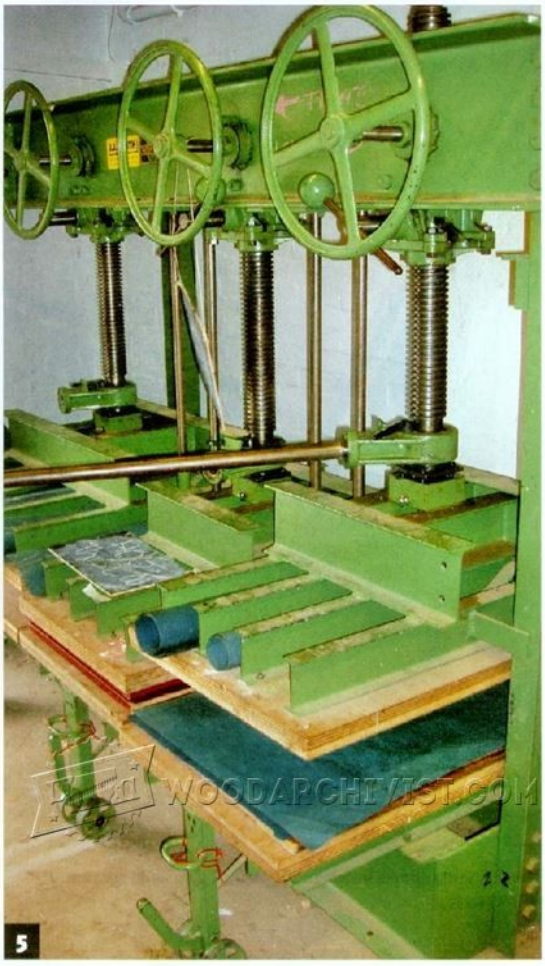
2 The base panel is veneered in American black walnut and the tray bottom is in English walnut, both salvaged from an offcuts bin. Jamie Ward, my tutor at Warwickshire College, picked up some fabulous rippled sycamore and was good enough to sell me some for the box top.

3 I had some left over stringing from a cherry dressing screen and used it to deal with the joint between the solid walnut sides and sycamore veneer.

The butt hinges were dug out of the bin and polished with emery paper, then finished with a clear urethane aerosol lacquer to prevent tarnishing.

4 A traditional box-stay would fold nicely into the space taken up by the tray, so I decided to splash out on a mechanism that nestles in the box side. This Brusso example is worth every penny of its £26, bringing the total material costs for the finished piece to a mere £35 – not bad for what has turned out to be a lovely piece.

The Brusso box-stay and reclaimed butt hinges, which Gary cleaned and polished



Gary was lucky enough to have use of a proper veneer press – we show veneer techniques you can use on pages 38 & 39

Gary's using his own jig here to shoot the veneers, ensuring their edges are perfectly straight to get a perfect match

After shooting, he has taped the veneers together prior to glue up

Veneering

5 Veneering the top, base and tray bottom was relatively straightforward. The tray bottom simply involved putting a sandwich of face veneer, plywood substrate and backing veneer into the screw press.

I used standard PVA adhesive throughout, including veneering. The forces generated by the expansion and contraction of the veneers as the water in the glue is absorbed then dissipated, can be enormous. They can easily turn your substrate into a corrugated mess, so it's important to balance those forces by using a balancing veneer and pressing it and the face veneer at the same time.

I've made the mistake of overdoing the glue and pressure in the past, leading to heavy bleed through. Some open grained veneers like ash and oak are more susceptible – a general rule is less is more.

For veneering techniques turn to pages 38 & 39 ➥

6–7 The danger of using reclaimed materials was evident in shooting the veneer. The sycamore was pliant and stable, the walnut was brittle and dry and tore with the slightest excuse. A light misting with water and a very sharp plane iron helped with the jointing but when I came to rout a rebate for the ebony string, it chipped badly, requiring remedial work in the guise of veneer darts.

Box construction

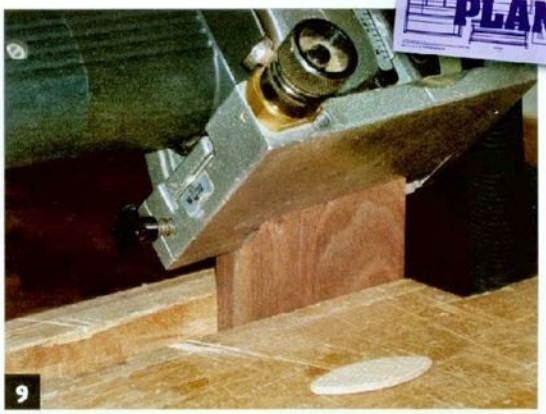
The base and top panels sit in rebates in the sides of the box and top. It's useful to have your veneering completed at this stage so the panels can be used as accurate depth gauges for setting cut depth. A portable router, router table, or a plough plane will produce similar results.

The grooves for the tray runners were worked into the box sides on the router table but could have been tackled with ease with a router and sliding fence.

The box sides and top are mitred and reinforced with biscuit joints. When cutting the mitres, I was careful to cut the top and box components at the same time to make sure they were exactly the same length. The slightest discrepancy would prevent them from mating perfectly.

The biscuits not only reinforce the joint but are useful when it comes to locating the components during assembly.

Gary's technique for biscuiting the mitres. Using two sides together creates a 45° angle the biscuit jointer nestles into



Here we see the biscuit jointer nicely located in the vee of the two mitred sides

After using the biscuit jointer, the slots are accurately cut into the mitres

8 I found the technique illustrated here to be accurate and efficient. Lay the components to be jointed together so that the mitres form a vee when secured in a vice. If your mitres are accurate, it will form a right-angled foot to locate the base of the biscuit jointer.

9-10 Then it is just a case of locating the jointer in the vee and cutting one side, then turning the jointer and cutting the other.

The box and its lid can then be glued and clamped together when ready. Once the lid has been glued up and has dried off, you can then cut the stringing into it.

For banding techniques turn to pages 42 & 43 ➥

Gary uses a sled jig and a table saw with the blade set at 45° to cut his mitres. The guard has been raised for photographic clarity. The riving knife can just be seen in this photo

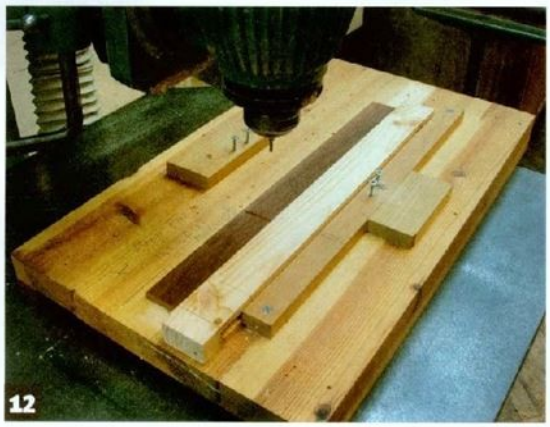
Tray construction

The tray sides are also mitred and the dividers are tenoned into the central divider and the sides.

11 Securing small components can be tricky and if you can feel the draught of a spinning blade on your fingers then it's time to re-think your approach.

Jigs are invaluable aids and essential if you want to remain largely intact. They will repay the time invested by offering accuracy, repeatability and safety. They don't have to be pretty and can be cobbled together with available offcuts, but they must be accurate. Here I constructed a sled jig to cut the mitres.

Safety is paramount when using machinery and all guards should be in place. In this photo, the guard has been raised to clearly see the sled and work.



The workshop Gary uses has an industrial overhead router. You will want to cut your joints with a router and jig

A dry fit of the tray components ensured everything fitted together nicely

12-13 Here again, I had access to a large overhead router to cut the mortise joints in the tray. In your workshop you will want to cut your joints with a router and appropriate jig.

14 I used a double headed tennoner with a sliding carriage to cut the tenons. You may resort to some clever lateral thinking with a router. Alternatively you could approach the job the old-fashioned way and cut your tenons with a handsaw.

Cutting the tenons for the tray dividers the old-fashioned way... with a back saw

Stand

15 The open frame of the stand takes advantage of the long narrow components yielded by the carcass of the dresser. The legs were ripped and mitred along their length and re-enforced with biscuits. A slight taper from the rails to the feet softens the boxy feel and lightens the overall effect.

The rails are dowelled into the legs and the whole assembly is stiffened by screws and glued corner blocks.

The box sits in an oversize rebate in the rails, thus avoiding trapped fingers while trying to position the laden box in the frame.

Hardware

The butt hinges were next chopped in by hand, and the depth was fettled with a razor sharp chisel until the top and base almost mated.

The slightest offset in drilling the pilot holes for the screws can pull out your alignment, and it took two attempts to achieve an acceptable fit, opening and plugging the pilot holes from the first attempt before having another bash at it.

The stand is a simple construction with dowels, and glued and screwed corner blocks

Gary constructed a simple jig to take a guidebush to cut out the rebate for the brass stay to fit accurately

Here you can clearly see the screw he used in the jig to adjust the length of cut of the router

16 I had one chance to get the brass stay fitted accurately so I invested the time to make a jig. The rebate width only required selecting a router bit of the appropriate diameter.

17 A screw is a simple but effective adjustable stop and can be calibrated accurately by the slightest adjustment – a quarter turn can make a big difference. After a number of test runs the fence was adjusted to centre the rebate, the screw adjusted for length, and the plunge of the router adjusted for depth.

18 The result was a rebate into which the stay could be press-fitted with no discernable gaps.

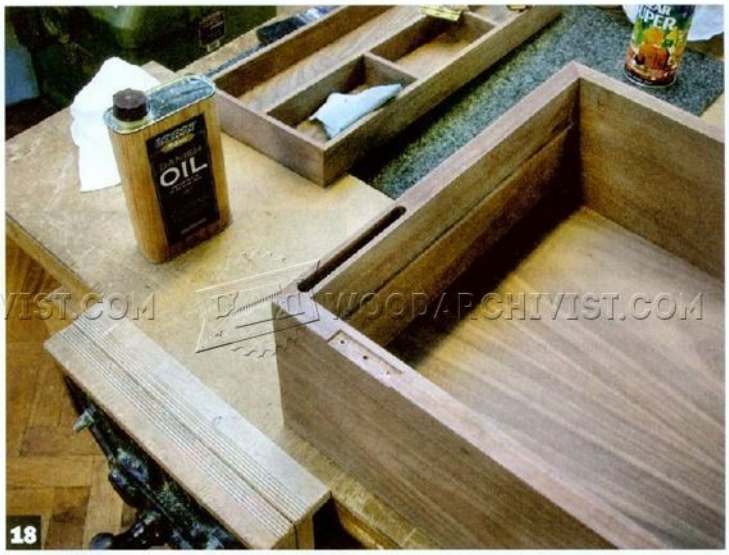
Finishing

It will often take longer to finish a piece than make it, but it is worth sanding through the grades before applying your finish of choice. I've had some trouble applying Danish oil to walnut in the past – the finish remained tacky and refused to cure. This time I diluted the first coat with a 50/50 cut of white spirit, followed by 75/25, then a full coat with at least 24 hours drying time between each coat and it worked well.

Conclusion

I love reclaiming discarded, seemingly worthless materials and giving them a new lease of life. But there are limits. Black walnut veneer would have cost pennies and would have been much easier to work than the desiccated examples which I used.

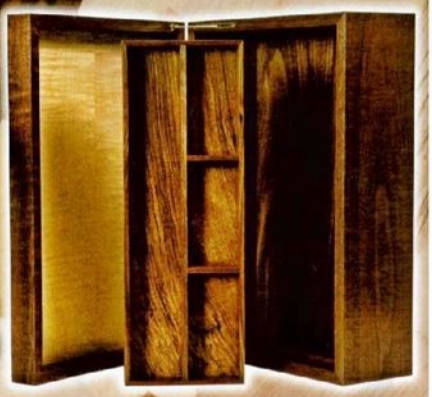
As always, the money spent on quality hardware was worth every penny. ■



The box stay rebate can clearly be seen here, as can the recesses for the butt hinges

The sewing box is a deceptively simple build, and the reclaimed timber has created a memorable piece of unusual furniture

Veneering techniques



Anthony Bailey explores various methods of applying veneers

Much as we can admire Gary Ramsden's beautiful handiwork involved in the making of his inlaid sewing box, not many woodworkers have the good fortune to possess an industrial veneer press! And yet, anyone doing fine cabinetwork will need to apply veneers from time to time. So what are the alternatives? We take a look at the practical options open to you.

Small area veneering

1 This is pretty easy to achieve using readily available means. A plentiful supply of clamps with enough reach and a pair of flat boards will allow you to press veneers onto small or narrow boards.

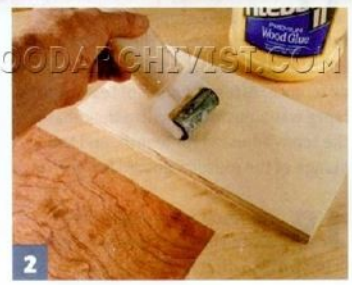
2 Pretty much any wood glue is suitable, so long as you make sure the glue is spread out properly whether by brush, toothed spreader or roller, the latter being favourite as it can apply a very even film of glue.

3 You can 'gang-clamp' a number of veneered boards by stacking them but put sheets of paper in between to prevent them sticking to each other.

4 Remember, you absolutely must have a balancing veneer on the reverse side which can be a cheaper

1 A simple press is OK for veneering small areas of timber

3 Gang clamping is a good way of veneering multiple small areas of substrate



2 Always ensure your glue is spread out evenly and thinly

4 You always need a balancing veneer on the opposite side

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Cutting the curve on a batten for use with a medium area veneer caul

or contrasting one, the important thing is to keep the board you veneer on to absolutely flat. Balancing veneers make this possible.

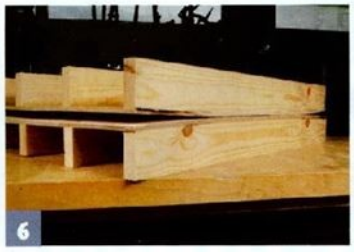
Medium area veneering

Because the surface area is larger it becomes difficult to apply even pressure away from the edges of the board. Failure to do this will allow thick patches of glue to form, air pockets that cause large bulges, and a generally poor surface. Here we outline a few simple methods.

5 A better method is the caul or simple press. You need two boards with a series of battens fixed to the back of each. If the battens were flat, they wouldn't apply enough pressure in the middle, so the battens that the press boards are screwed to are deliberately bowed.

6 Here you can see clearly the bow this creates in both plates of your homemade veneer press.

Iron-on glue film is a simpler way of veneering but still requires care



When the battens are screwed to the press plate it bows up at the edges

7 This means pressure is applied to the middle of the veneered board first, thus squeezing out air and glue towards the edges, which get the pressure last as clamps are tightened.

8 Lastly, you can use iron-on glue film. This uses a hot iron placed over a protective sheet of paper on top of the veneer, with the glue film beneath that, itself on top of the substrate. This can be effective but needs care to ensure a good bond all over without drying out the veneer.

Large area veneering

You can buy full pre-veneered boards from timber merchants but the veneers are generally not very highly figured. The thickness of the veneer is not great so care is needed.

Professionals often pay larger cabinetshops and specialist veneerers to press large or difficult veneers, and you can do the same. Check Yellow Pages or online, or simply call in at any workshops near you and they will probably be able to help, if only to suggest who can do the work for you.

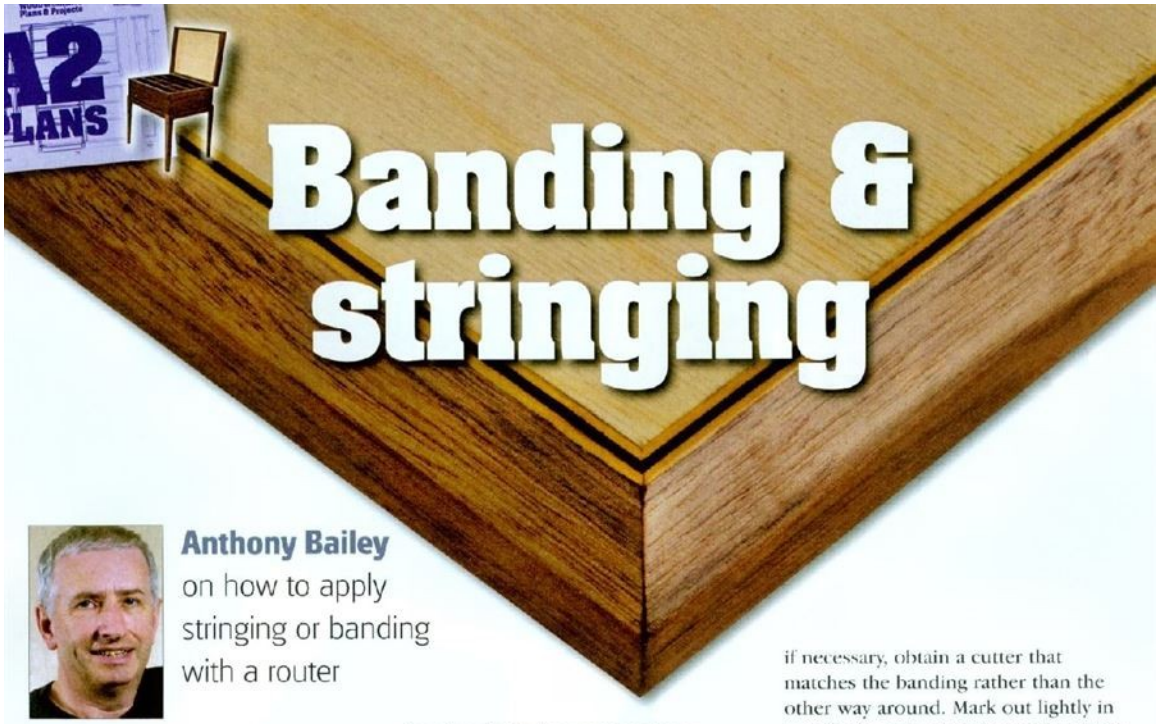
9 A newer method, if you are well heeled, is using a vacuum bag-press which excludes air, thus forcing the veneer down onto the board. It is also good for veneering shaped work. ■

For those with spare cash, the vacuum press can be a good option

When clamped, the caul applies pressure from the centre outwards

VENEERING TIPS

- Store veneers in a cool, dry location away from sunlight, or bright room lighting to avoid cracking and fading.
- You must always use a balancing veneer but it can be a cheaper plain one, thus keeping costs down.
- For larger panels there will be at least one join. Cut the sheet edges dead straight using a long steel safety straightedge and a sharp scalpel or Stanley knife, or plane them accurately with a veneer shooting board.
- Use only veneer tape to hold joins and splits together. It is thin and easy to sand away.
- Leave a slight veneer overhang – this can be trimmed off with a knife and rule afterwards and finished with a block plane or router with a laminate trim cutter.
- Apply glue evenly and clamp up as soon as possible while it is all still wet. Use liquid glues such as standard PVA or aliphatic resin.
- Expensive burr veneers tend to be rather uneven and need damping to soften them so they lie down flat without breaking.
- Keep expensive veneers for the most important 'show' areas and use plainer veneers for other areas, or use solid wood for framing etc.



Banding & stringing

Anthony Bailey on how to apply stringing or banding with a router

Veneered or solid wood cabinetwork can be improved and beautified by applying stringings and bandings. It is a traditional cabinetmaking technique but is remarkably easy to do. We show you how to do a simple piece of inlaid banding and make your project more pleasing to the eye.

Stringing refers to inlaid lines of thin wood, often holly for white, while black dyed sycamore is used for black lines, although in the past it was often ebony for more expensive work. There are also brass inlay lines for fancier work. Bandings are where several lines are glued together, sometimes with a continuous cross grain strip of contrast wood in the middle. These are wider than stringing, but both types of inlay come in different widths and combinations. You can buy all these lines and bandings from specialist suppliers.

Inlaying a banding

1 First you need to decide where to place your banding – generally this will be reasonably close to the edge of a box or cabinet, although you can have a banding further towards the middle if it looks right. Do not commit yourself too early, but lay the banding on the surface using two pieces crossing at one corner so you get a proper impression as to how it will look when finished. If the banding looks too narrow or too wide, you may need to obtain a different size before starting the job. In Gary Ramsden's case, he places the banding on the junction of the walnut sides and the sycamore veneered top, so that is what we will do here.

2 Choose a straight router cutter that matches the width of the banding. It is better if you can avoid making two passes to widen a groove as there is more chance of error creeping in. Buy the banding first and if necessary, obtain a cutter that matches the banding rather than the other way around. Mark out lightly in pencil where the banding will go. This is important because when you machine the grooves, they must not overrun at the meeting corners as the surrounding surface will be damaged.

3 Routers only work accurately because of proper guidance. The open gap in the fence can cause trouble if it catches at the corner of the box or tabletop, so you need to remove the plastic facings and fit a longer continuous wooden fence for smoother running.

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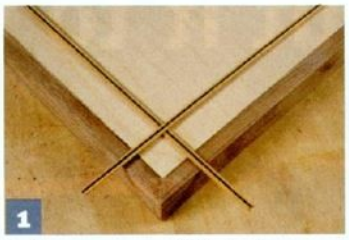
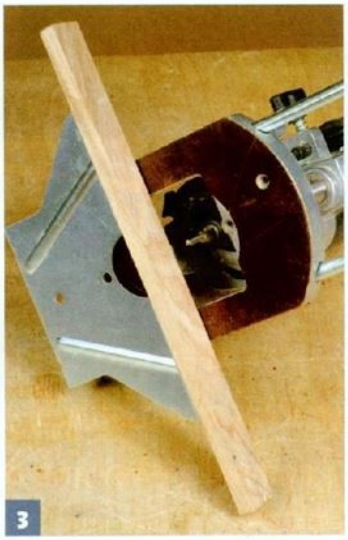


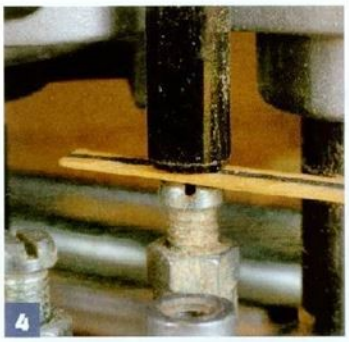
Decide were you would like to place your banding or stringing

Vernier callipers are an accurate method of measuring your router cutter



Make your own fence with no gap in the middle for your router

PHOTOGRAPHS BY GMC/ANTHONY BAILEY



Setting the plunge depth for the router using the banding as a starting point

When cutting, pull the router towards you and push it against the workpiece

4 Set the groove depth by plunging the static router so the cutter presses against the surface, and insert the banding in the gap between the turret depth stop and the depth rod. Lower the depth rod onto the banding and lock it off – this gives you a flush level fit. Then unplunge, remove the banding and lower the depth rod slightly and lock off – this should leave the banding proud and ready for sanding. Do some test cuts.

5 You will be running around the edge, so the only guidance available is the straight fence. You need to pull the router towards you and push the fence against the workpiece. Machine all the grooves, stopping short of the corners.

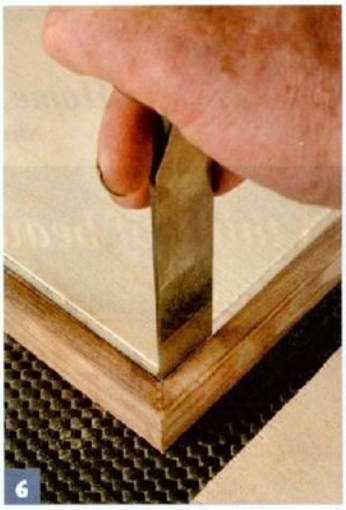
6 To square the corners, take a very sharp, firmer bevel chisel and press the flat of the back against the outside of the slot, in line with the meeting pencil line from the adjacent slot, and press down to cut through the wood in the corner. Repeat on the other side then remove the waste.

7 Bandings come in long sections so cut it with a chisel into oversize lengths. Place the first piece into the groove and carefully sight down the flat back of the chisel at the corner junction so the blade edge runs from internal corner to external corner, and press down to mark the banding. Note the reflection in the mirror back of the chisel – if you get a perpendicular reflection off the banding the cut will be at 45°. Place the banding on a board and make a crisp cut with the chisel. Place the banding in the groove and check the cut is correct.

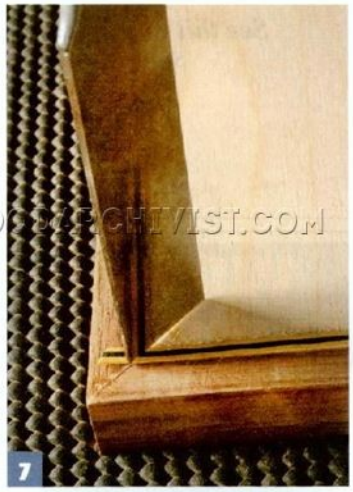
8 Now remove this banding and put the adjacent piece in its groove and again repeat the procedure. Replace the first piece of banding and the two should meet neatly.

9 When all bandings are cut, remove one at a time, run a little glue in the groove, replace the banding and use masking tape across it to hold it down. Do this all round, then run masking tape lengthwise along the bandings.

10 Professionals will use a pad sanding machine to level the surface (not a small pad sander!), or even a belt sander, but this can be a disaster. A safer method is to stick a strip of medium abrasive to a long batten like an extended sanding block, and work it back and forth until the banding is level with the surrounding wood, then sand more conventionally, ready for a finish. ■



Using a very sharp bevel edge chisel to square up the corners

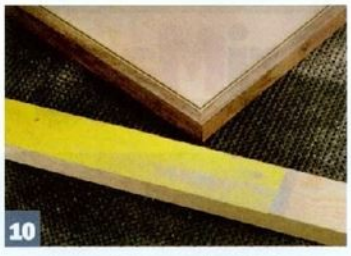


Marking the 45° cut on the banding – note the reflection in the chisel!

TOP TIP *Spray clear sealer on the top so the black sanding dust from the banding won't discolour the sycamore.*

A dry fit of the banding adjacent to your first cut

Masking tape holds the banding in place once you have glued it up



Abrasive applied to a strip of timber is used to sand down the banding

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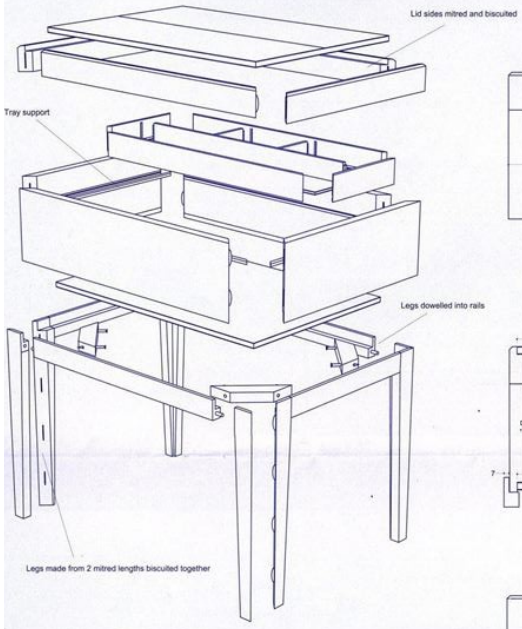
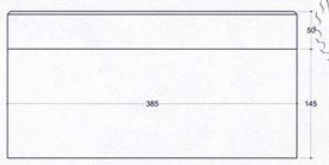

Lid sides mitred and biscuited
Tray support
Legs dowelled into rails
Legs made from 2 mitred lengths biscuited together



End Elevation of Box

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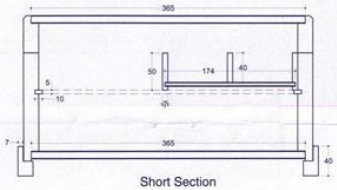

Short Section

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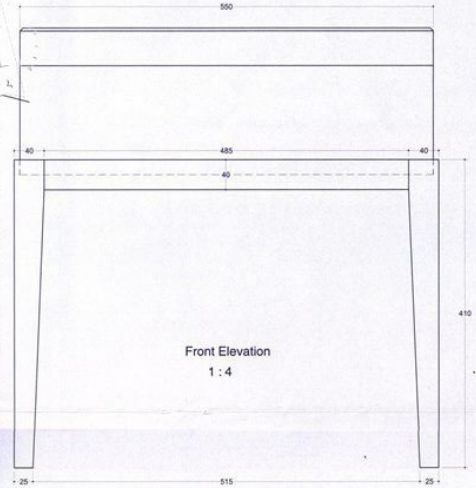
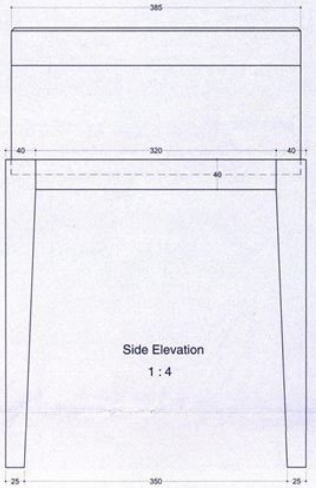


Front Elevation

1 : 4



Side Elevation

1 : 4

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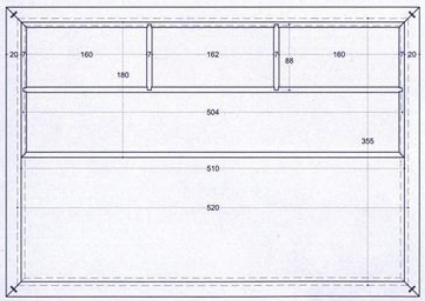
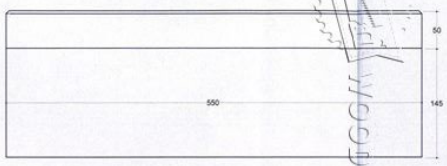
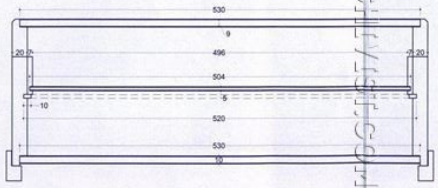




Front Elevation of Box

1 : 4

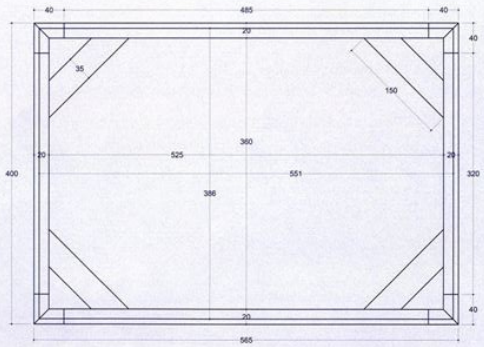


Long Section

1 : 4

Cutting List

LEGS	8 @ 410 x 40 x 20
LONG RAILS	2 @ 485 x 40 x 20
SHORT RAILS	2 @ 320 x 40 x 20
ANGLED BRACES	4 @ 150 x 35 x 20
BOX	
SIDES	2 @ 550 x 145 x 20
ENDS	2 @ 385 x 145 x 20
LID SIDES	2 @ 550 x 50 x 20
LID ENDS	2 @ 385 x 50 x 20
LID TOP	1 @ 530 x 365 x 9 (+ veneer)
BOTTOM	1 @ 530 x 365 x 9 (+ veneer)
TRAY	
SIDES	2 @ 510 x 50 x 7
ENDS	2 @ 180 x 50 x 7
DIVIDER	1 @ 504 x 40 x 7
DIVIDERS	2 @ 88 x 40 x 7
BOTTOM	1 @ 504 x 174 x 5 (+ veneer)
SUPPORTS	2 @ 520 x 10 x 5
SUPPORTS	2 @ 355 x 10 x 5



Plan of Legs/Supports

1 : 4